Kuukpik

October 29, 2019

BLM_AK_Willow_Comments@blm.gov

Willow MDP/EIS Scoping Comments
Bureau of Land Management
Attn: Racheal Jones
Planning and Environmental Specialist
222 West 7th Ave., Stop #13
Anchorage, AK 99513

Re: Kuukpik Corporation Written Comments on the Willow Master Development Plan Draft EIS

Dear Ms. Jones:

These comments on the Willow Master Development Plan ("Willow MDP") Draft EIS are submitted by Kuukpik Corporation ("Kuukpik") on behalf of Kuukpik and our shareholders in the community of Nuiqsut. Kuukpik Corporation ("Kuukpik") is the Alaska Native Claims Settlement Act ("ANCSA") village corporation for Nuiqsut. As an ANCSA village corporation, one of Kuukpik's primary overarching goals is protecting the subsistence lifestyle and culture of the Native residents of Nuiqsut.[1]

[1] Nuiqsut itself is one of the most traditional and subsistence-dependent communities on the North Slope, so impacts on Nuiqsut's traditional subsistence range are of critical importance to Kuukpik and to the community. Nuiqsut is the community most affected by oil development on the North Slope to date. Virtually all of the oil development on the North Slope over the past 45 years has occurred on Nuiqsut's traditional range. Likewise, Nuiqsut is the community that will be most affected by the proposed Willow project. Not only is the entire area occupied by the Willow project within the traditional subsistence range of Nuiqsut, but so is the entire expanse of the vastly larger Bear Tooth Unit in which Willow lies. Some 90 to 95% of the residents of Nuiqsut are Kuukpik shareholders, are children of shareholders (who will themselves eventually inherit Kuukpik shares), or are married to Kuukpik shareholders, so what is bad for Nuiqsut is intrinsically bad for Kuukpik's shareholders and their families. Kuukpik is also in the process of seeking shareholder approval to expand its shareholder group by what could be several hundred new descendant shareholders. Kuukpik also owns or will one day receive title to small portions of the land that may be used to construct the Willow project.

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Summary

The proposed Willow Project is vastly larger than any oil development project built on Alaska's western North Slope in over 20 years. In fact, it is substantially larger than the somewhat comparable Alpine oil field built between 1998 and 2000.[2] Willow therefore poses risks, original and cumulative, unlike any Nuiqsut has seen on the ground in several decades.

Due to its enormous size, its design, and its location in and across important caribou migration corridors, the Willow Project threatens to significantly disrupt and deflect caribou. The project's north-south layout, coupled with its perpendicular east-west access road, threatens to deflect migrating herds of caribou so far out of their customary migration patterns that the animals may not even pass through the areas near Nuiqsut that hunters have come to rely on. Impacts on calving activity further increase the threat. In other words, the potential harm from Willow lies not only in its impacts on the immediate project area, but in the ripple effects that a T-shaped development blocking both the east-west and north-south migration corridors could have on caribou and on Nuiqsut's subsistence resources.

The Draft EIS confirms that Kuukpik is right to be so concerned, stating (in more ways than one) that "[t]he most substantial Project effects are related to subsistence harvest impacts." The ANILCA 810 analysis summarizes these impacts even more specifically, concluding that the project as proposed by ConocoPhillips—which is also BLM's preferred alternative[3]—could deflect so many caribou and cause so many hunters to avoid traditional hunting grounds that it "may significantly restrict subsistence uses for the community of Nuiqsut."[4] The ANILCA 810 analysis also concludes that Willow "would constitute a substantial restriction on subsistence access for Nuiqsut residents…," and that "given the importance of caribou availability and access to traditional hunting areas to Nuiqsut hunters, the BLM expects that limitations to subsistence access and the reduced resource availability anticipated to occur over the 30-year Project life…would result in an extensive interference with Nuiqsut hunter access."[5] The impacts would include immediate and direct impacts on Nuiqsut hunters, but also the community of Nuiqsut and throughout the North Slope because of the importance of inter- and intra-community sharing of subsistence harvests.[6] BLM therefore concludes that "The effects on

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[2] It is also of comparable size to Oil Search Alaska's Nanushuk Development project, which may begin construction on largely Kuukpik-owned lands within the next several months. The congruence of these two projects and their respective impacts on Nuiqsut and on the subsistence lifestyle of Nuiqsut's Inupiat residents are of major concern to Kuukpik.

[3] Vol. 1, p. ES-3.

[4] Vol. 4, Appx. G, p. 22 (emphasis added).

[5] Vol. 4, Appx. G, p. 25 (emphasis added).

[6] Vol. 1, pp. 149-50:

subsistence and sociocultural systems may be highly adverse and disproportionately borne by the Nuiqsut population."[7]

Kuukpik therefore finds the Draft EIS's failure to carry forward reasonable alternatives proposed during the scoping phase that would almost certainly reduce Willow's impacts on subsistence (particularly for a roadless BT4 and/or BT5) not only arbitrary and capricious, but just plain wrong. The Draft EIS's failure to incorporate the impacts identified in the ANILCA 810 analysis as to the Module Transfer Island ("MTI"), BLM's non-preferred alternatives, and the gravel mining operations are similarly flawed.

Based on the current design and Draft EIS analysis, Kuukpik does not believe the proposed Willow Project is balanced and environmentally responsible, or that it adequately protects the land and the wildlife resources on which Nuiqsut depends for subsistence.

More specifically, the Draft EIS's analysis of Alternatives C and D confirms that the proposed alternatives for a roadless BT4 and/or BT5 should have been carried forward. Eliminating the road connections to BT4 and BT5 looks increasingly like one of the better alternatives available, but the Draft EIS inexplicably doesn't analyze either option despite repeatedly confirming that the proposed 25 mile north-south road system would disrupt and deter migrating caribou, particularly those moving east from Teshekpuk Lake towards Nuiqsut. These are the animals that (in terms of impacts from Willow) are most important for Nuiqsut hunters because they pass closest to the village and are therefore more accessible and abundant in areas Nuiqsut hunters use most. An elevated north-south road and pipeline directly perpendicular to this migration path could deter and deflect the migration far to the north or south of those commonly used areas. Eliminating the road segments in the extreme north and south (to BT4 and BT5, respectively) would reduce this barrier by about half and would be particularly

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> Subsistence harvests are part of the social, cultural, and economic fabric of Nuiqsut. Adverse effects to subsistence harvests affect social standing in the community, transmission of cultural traditions between generations, and food security for individual households and the community as a whole…
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> Decreased harvester access or subsistence resource availability resulting from the Project would adversely affect sociocultural systems due to the importance of subsistence in Iñupiaq cultural identity, social organization, social cohesion, transmission of cultural values, and community and individual well-being.
>
> Decreases in harvester access or subsistence resource availability would reduce opportunities for engaging in subsistence activities, potentially increasing social problems associated with drugs and alcohol. The poorest residents would bear disproportionate effects.

[7] Vol. 1, p. 150. And, of course, these impacts would fall most heavily on the poorest and youngest Nuiqsut residents, who are least able to afford the boats, outboard motors, snowmachines, and fuel to shift their subsistence harvests to less affected areas.

beneficial in the north where more caribou are present and attempting to migrate east towards areas that are accessible by the Spur Road.[8]

Yet the Draft does not even carry that alternative forward for analysis. The reasons for that rejection are questionable, at best, as explained in detail below. One of the only plausible arguments against these alternatives is that they would require increases in air traffic. But as detailed below, this may not be as great a concern at Willow as BLM thinks. The only way the community can find out for sure if a comparatively small increase in air traffic would be acceptable if it reduced impacts from roads on the ground is if a detailed analysis of a roadless BT4 and BT5 option (and each individually) are included in the Final EIS.

The failure to incorporate the results of a similar balancing of competing interests with respect to Alternatives C and D is one of the other most significant shortcomings in the Draft EIS. Throughout the Draft EIS and ANILCA 810 analysis, there is information showing that Alternatives C and D would likely reduce impacts to caribou migration by removing roads and road connections in certain high value areas. BLM even concludes (in some places, but not others) that reducing those on-the-ground impacts would probably be worth accepting some marginal additional air traffic. Whether the community of Nuiqsut ultimately agrees with that conclusion or not (and the community's evaluation of those competing interests should certainly be given far more weight than anyone else's), that conclusion conflicts with and deeply undercuts BLM's decision to prefer Alternative B. The bulk of the Draft's analysis shows that other alternatives would have less impacts on subsistence and Nuiqsut generally. How then can BLM continue to prefer Alternative B? Furthermore, how can it summarily reject other semi-roadless options (like a roadless BT4 and/or BT5) that Kuukpik has asked BLM to analyze?

Kuukpik has also long advocated for an alternative that would eliminate the proposed Module Transfer Island ("MTI"). But the Draft EIS doesn't analyze a single alternative to that plan. That is truly astonishing. No other project in the history of the North Slope has required constructing a relatively permanent offshore gravel island just to deliver the production modules, but this project can't be built any other way? That's just not credible. Kuukpik is absolutely confident that CPAI can devise a way to safely transport its modules to the Willow area without building an island that will create long term safety and navigational issues for subsistence users trying to access Fish Creek. And CPAI will *have* to do so if it wants any Nuiqsut residents to support the project. BLM also has a responsibility to analyze at least *some* other delivery option that isn't universally opposed by Nuiqsut residents. That analysis should also be released for public comment and consultation with stakeholders prior to publication of a Final EIS.

The Final EIS needs to delve into those alternatives if BLM wants to find an alternative that is balanced and responsible and meets legal requirements for NEPA and for the various

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[8] Vol. 1, p. 99 ("[D]uring the mosquito season, TCH caribou are predominantly found north of the Willow area, but high densities of animals can be present in the northern portion of the analysis area.").

permitting standards at the federal, State, and local levels. None of the options in the Draft EIS look like they meet those standards, perhaps least of all the preferred alternative. Kuukpik hopes that with more in depth analysis, more willingness to question its own assumptions and working conclusions, and continued effort to find ways to provide offsetting benefits to the community, BLM can generate a new alternative that may be acceptable. Unless that happens, Kuukpik will be unable to support the Willow Project.

I. The Draft EIS fails to include and analyze viable alternatives that could significantly reduce impacts on Nuiqsut.

Kuukpik raised concerns early on in this process about making sure the NEPA process took a real "hard look" at a wide array of options to reduce the impacts Willow would have on Nuiqsut residents and their subsistence needs. As Kuukpik noted in its scoping comments:

> The NEPA process shouldn't be—or even appear to be—a formality that basically approves what has already been decided. NEPA is about comparing the likely impacts of the proposal with various "reasonable alternatives." Given the scope of the proposed Willow project and, in particular, its location in and near important caribou habitat and migration corridors, Kuukpik hopes to see a wide array of potential alternatives that can help us, BLM, and any other interested person or agency determine what changes to the proposed project could reduce the negative impacts as much as possible and even whether the project could provide partially offsetting benefits. There's no other way to determine Willow's potential impacts, to realistically evaluate what impacts are "unavoidable", and to decide what tradeoffs are necessary to minimize impacts while nevertheless allowing CPAI to access most of the resource.[9]

Kuukpik went on to emphasize that analyzing alternatives in a multi-facility project like Willow requires much more than just moving roads around (as was done in the alternatives for comparatively small, standalone projects like GMT1 and GMT2). The Willow project is more on the order of building a new Kuparuk-sized facility than it is building a GMT1 or GMT2. Even with all its satellites, Alpine is smaller than Willow.[10] Therefore, just as the Alpine Satellite Development Project EIS analyzed a range of different development options, the Willow EIS should look at "a suite of alternatives (and/or sub-alternatives) that could meaningfully reduce both Willow's footprint and its likely impacts on Nuiqsut and the subsistence resources the

[9] Kuukpik Corporation, Scoping Letter, Willow MDP, Sept. 28, 2018 ("Kuukpik Scoping Ltr."), p. 10.

[10] Alpine, with a somewhat similar production profile, was proposed in 1997 with a footprint of about 98 acres, versus Willow's 442.7 acres. Table ES.1, p. ES-5.

community depends upon. At a minimum, this means looking at alternative drill site locations and road layouts, and possibly eliminating certain roads entirely."[11]

The Draft EIS doesn't achieve that. There is, for example, no discussion of alternative drill site layouts. Maybe that's because BLM thought it was enough that two of the more objectionable drill site locations, BT2 and BT4, have already been moved slightly from their original proposed locations. Kuukpik is glad those moves occurred, but that doesn't mean there's nothing left to do.[12] BLM should be looking critically at all the facilities and asking why the impacts can't be reduced further.

A. The Final EIS should analyze the impacts of operating BT4 and BT5 as roadless satellites.

The Final EIS must be especially careful and probing when it looks at the impacts and tradeoffs that would be involved in the proposed road system to support Willow. Kuukpik believes the option of constructing BT4 and BT 5 without roads would substantially reduce impacts to caribou on the ground. As Kuukpik has said repeatedly—and as the Draft EIS confirms—the north-south Willow road and pipeline system threatens to create about a 25 mile-long north-south barrier directly west of Nuiqsut. The Draft EIS acknowledges that this barrier is likely to deflect, disturb, and delay migrating caribou that should be moving northeast towards the coast or east towards Nuiqsut.[13]

For BT4 especially, there would also be a heightened impact on calving. All caribou are known to be affected by traffic rates exceeding 15 vehicles per hour.[14] And most maternal caribou in particular do not habituate to road traffic, which would affect caribou in the project area for at least three weeks every spring/summer.[15] The fact that BT4 in particular and its proposed access road is now located just outside the Teshekpuk Lake Caribou Habitat Area is a helpful change but does not eliminate the impact on calving. Figure 3.12.5 shows BT4 and about a mile or more of its access road lying within the medium calving density area. The rest of that access road is still shown to be within a lower density calving area.

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[11] Kuukpik Scoping Ltr., p. 11.

[12] We also acknowledge the commitment to observe the K-5 restrictions at BT-4. Appx. D, p. 19. Of course, those restrictions are vague enough that BLM may well need to provide more specific requirements to ensure that additional protection is meaningful, rather than just aspirational.

[13] Vol. 4, Appx. G, p. 16 ("Roads and road traffic are believed to cause behavioral and migratory changes in caribou that can affect hunting success. Deflections or delays of caribou movement from roads and associated ground traffic and human activity have been documented both by active harvesters and during behavioral studies on caribou.").

[14] Vol. 1, p. 104 and 138.

[15] Vol. 1, p. 104.

Eliminating the roads to BT4 and BT5 would reduce the total distance of the north-south road system barrier by about 7 and 5 miles respectively, or a total of about 12 miles. That's nearly half the total length of the infield road system. That's a huge amount of gravel that could be avoided just by constructing two of these five facilities without permanent access roads.

But even more important from a subsistence perspective, eliminating those roads would eliminate huge portions of the road that would otherwise deter and deflect caribou migration around Nuiqsut. A 25 mile barrier west of the community could have devastating consequences on the overall health of the Teshekpuk Lake Herd and the community that depends on it the most. Nuiqsut is directly east of the proposed road system, just slightly north of its approximate midpoint. So if the entire road system is built, there would be a potential barrier extending more than ten miles to the north and to the south of the village in the area to the west where caribou traditionally migrate closest to Nuiqsut (mostly west/northwest to east). If significant numbers of caribou that traditionally migrate through this area are deflected or scattered along ten-plus mile barriers north and south of the community, we don't know whether those animals would return to their normal migration path at all, much less by the time they would otherwise be passing close to Nuiqsut. Over the long term, it would not take many years for the entire migration pattern to change, leaving far fewer animals passing closer to Nuiqsut than there currently are. This increases the stakes for Nuiqsut considerably because if animals do not pass as close to the community, subsistence users will be required to travel farther to hunt, increasing the cost and safety risks of practicing subsistence.

Even just building BT4 as a roadless facility would accomplish more than half these improvements and avoid significant impacts in the critical northern reaches of the Project Area. This is a high use area for caribou during multiple seasons, but especially during the spring migration and post-calving seasons.[16] The animals moving north of the village (and GMT1 and GMT2) are also the most likely to be successfully targeted by subsistence hunters accessing the Alpine road system *via* the Spur Road north of Nuiqsut. So eliminating the northern road segment (between BT2 and BT4) would be particularly beneficial because there would be less disturbance to the herd generally (during spring and calving season), and because animals would be more likely to continue using their traditional migration route closer to Nuiqsut. In fact, because Nuiqsut is almost directly east of BT2, ending the road there would eliminate the road barrier extending to the north of the village in this migration corridor. BT4 itself would still cause some disturbance, of course, but the linear migration barrier would be reduced significantly. Caribou would be much more likely to continue passing through Nuiqsut and the areas ten or so miles to the north. Eliminating impacts in this area would therefore help preserve the subsistence benefits that have begun to accrue as a result of the Spur Road, and which helped make other projects (like GMT1 and GMT2) more acceptable from a cost-benefit perspective.

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[16] Vol. 2, Appx. A, Fig. 3.12.6.

Despite all these potential benefits, the Draft EIS doesn't analyze the impacts of eliminating roads to BT4 and BT5 or either one individually. Instead, that alternative is summarily dismissed without enough explanation to even really know why. The Draft lists the following reasons for rejecting the roadless BT2 and BT4 alternative:

- Would result in 26 to 30 acres of additional surface disturbance (i.e., wetland fill) for additional airstrip, camp, and equipment and supply storage at each drill site.

- Would result in substantial additional water use over the life of the Project to annually construct resupply ice roads from drill site BT1 to drill sites BT2 and BT4.

- Would result in additional air traffic during the 9-month roadless period each year (would increase air traffic by approximately 7,000 flights during construction and 1,100 flights during drilling and operations).

- Would increase health and environmental risk in the event of an emergency (i.e., inability to evacuate personnel or respond to oil spill incidents when weather prevents flights in and out of the airstrips, which is common on the North Slope).[17]

Given the size of the impacts on Nuiqsut, none of these reasons should be disqualifying, individually or collectively.

Although Kuukpik acknowledges that a roadless BT4 and/or BT5 would require a slightly larger drill pad and an airstrip, it's unlikely that the net increase in the gravel footprint of two roadless satellites would be 30 acres *larger* than about 12 total miles of gravel road. If BLM believes otherwise, it should "show its work" so to speak because we suspect this calculation could only be reached by vastly over-stating how large the roadless satellites would need to be under this alternative.

More importantly, avoiding gravel footprint and operations in some areas is more important for subsistence than avoiding it in others. A road with regular traffic creates more impact than an infrequently (probably mostly seasonally) used airstrip. That is especially true in light of the information above about the impacts of roads on calving caribou.

Of course, Nuiqsut residents *are* very concerned about increased air traffic. The impact of a low-flying airplane frightening caribou and disrupting a hunt is immediate and highly visible. The impact of a road blocking and diverting caribou migration and reducing calving is less visible to an individual hunter in an immediate sense, but when the caribou incrementally stop coming to a particular area because of migration diversions, the disruption is greater even if less immediately visible and less clearly attributable to a particular facility. Particularly in the instances of BT4 and BT5, a little more air traffic may well have substantially less impacts than

[17] Vol. 3, Appx. D, p. 11.

the same or lesser acreage of an active infield road. But the Draft EIS doesn't analyze whether a little more air traffic in the BT4 or BT5 areas would have less impacts than an access road. In light of the magnitude of the impacts these roads are expected to have on subsistence, that failure is not acceptable.

The decision not to carry a roadless BT4 and BT5 alternative forward is unjustified and arbitrary. Even if the roadless satellites were somewhat larger, it's entirely possible—and probably even likely—that some additional footprint at each satellite would be justified in order to eliminate a significant road barrier. Likewise, a marginal increase in flights may be acceptable if it reduces the likelihood of mass deflection. And although Kuukpik is certainly sensitive to safety concerns, as far as we know, roadless CD3 has operated safely for over a decade without any significant incident or issue that would have turned out differently if only CD3 had been connected to a road.

The Draft also arbitrarily rejects the standalone BT4 alternative from further consideration. The Draft's summary dismissal of that alternative doesn't claim that a roadless BT4 would increase the overall gravel footprint, so we assume that the overall footprint of a roadless BT4 alternative would be less than BLM's preferred alternative (but BLM should provide the assumptions and calculations confirming that). Instead, the Draft EIS states cryptically that a roadless BT4 "Would result in increased surface disturbance (need for additional airstrip, storage, and camps)."[18] Presumably this means that a standalone BT4 would have to be moderately larger than if it was connected to the road system. That may be true to some extent as to footprint, but the text suggests to the casual reader that the entire alternative would cause more disturbance overall, which Kuukpik believes (and the Draft EIS analysis on impacts to subsistence harvests suggests) is highly unlikely.

A moderately larger BT4 with no permanent gravel road connection would almost certainly cause less impacts on the ground than a slightly smaller drill site with a 7 mile access road. The Final EIS needs to look at this option in detail so stakeholders can compare the site-specific impacts of expanding BT4 against the potential benefits of eliminating the access road to that site. Kuukpik thinks it's pretty likely that the road would have significantly more impacts than a comparatively small increase in pad size. But the Draft EIS doesn't provide any information on this important issue. That's why we continue to urge BLM to explore the roadless BT4 and BT5 alternative(s) in depth.

B. A small increase in air traffic could be outweighed by eliminating road segments that may not be as useful for subsistence purposes.

There would be minimal, if any, offsetting subsistence benefit from hunters using a road to BT4 or BT5. In its scoping comments and consultations with BLM, Kuukpik has emphasized

[18] Vol. 3, Appx. D, p. 11.

that it does not support building roads unless their value outweighs their negative impacts. Roads relatively close to the village provide convenient and safer travel options for subsistence hunters and residents generally. But the farther from the village a road is, the less valuable it is because, at a certain point, the time and cost of the trip become a deterrent to use. For many people headed west from Nuiqsut on the road system, that point is probably somewhere between GMT1 and GMT2. Certainly there will be some people who venture farther, but the subsistence value of the roads proposed to support Willow are far, far less than those that have been built over the last couple of years to support GMT1 and GMT2 for example.[19]

This is especially true for the infield roads connecting the Willow drill sites. Those road segments are so far from the community that they are unlikely to be used for subsistence unless hunting conditions are especially bad elsewhere. Moreover, to use those roads at all, Nuiqsut residents would have to drive right through the area around the Willow Processing Facility ("WPF"), which most people will probably not want to do. Those that did venture past the WPF would encounter a drill site every few miles along the north-south access road. It's simply not realistic to think many people will want to practice subsistence in that environment except as a last resort.

Overall, Kuukpik believes the Final EIS needs to give much more weight to alternatives that eliminate one or more of the infield road segments. Those segments are unlikely to provide significant subsistence or other value to Nuiqsut residents. Conversely, they are likely to have significant impacts on migrating caribou, as discussed below. Thus, even if the entire Willow Development is not roadless, eliminating certain road segments would almost certainly reduce negative impacts to migrating caribou without much reduction in the amount of useful road available to subsistence hunters.

Unfortunately, there's no analysis upon which to base a firm conclusion because the roadless BT4/BT5 alternative isn't included in the Draft EIS. But given the conclusions scattered throughout the Draft EIS and ANILCA 810 analysis indicating that both "roadless" options BLM *did* analyze would result in less impacts to caribou than the preferred alternative, it's near certain that a roadless BT4/BT5 option would be as good or better with respect to those impacts on Nuiqsut than either Alternative C or D, and may very well be preferable to Alternative B. We strongly urge BLM to include roadless BT4/BT5 satellites in a new alternative in the Final EIS so we can see a detailed analysis of anticipated flight numbers, the marginal differences between alternatives, and a careful assessment of <u>where</u> and when the impacts from those flights would occur.

The Final EIS should also include this more specific information on Alternatives C and D and present it in a way that clarifies how the impacts from those alternatives would differ from

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[19] Vol. 4, Appx. E.16, p. 51 (Table E.16.18) (Alternative B: "Moderate likelihood of increased access although use of roads may decrease with distance from the community.").

Alternative B. No matter which alternative is selected, there will be additional flights in the area—that's just a fact.[20] The Draft EIS estimates that BLM's preferred Alternative B would generate about 1,190 *new* flights per year, which comes out to about 3-4 flights per day (though that's not a precise number since flights would fluctuate during construction and production).[21] What's particularly interesting, though, is that Alternative C is only estimated to require about *400 more flights* than Alternative B over the entire the life of the project.[22] Based on the assumed 30 year lifespan, that's only about one extra flight per month in exchange for eliminating the road between the Willow Processing Facility and BT1.[23]

That could be the kind of tradeoff Nuiqsut residents are willing to make.[24] One extra airplane a month, flying high overhead or thirty miles west of the village, would not be

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[20] See Vol. 1, p. 137:

> Air traffic, particularly helicopter traffic, has been the most commonly reported impact on caribou hunting (CPAI 2018b; SRB&A 2018a). Throughout the alternatives analysis area, air traffic could cause direct and indirect disturbances to caribou availability both within and outside of the Project footprint. During construction, fixed-wing airplanes would be the primary source of air traffic, with helicopters used to support ice road construction, surveying, and monitoring (CPAI 2018b). There would be increased fixed-wing traffic to Alpine for the first 2 years of construction, which could affect resource availability for residents hunting by boat in the CRD. Once the airstrip is constructed, air traffic to Project area would likely increase to multiple daily flights throughout the life of the Project, although at slightly lower levels during drilling and operations. Helicopter traffic would occur on a more periodic basis throughout the life of the Project. According to SRB&A (2018), the area west of Nuiqsut accounts for a substantial percentage of Nuiqsut's annual caribou harvest, and increased air traffic within that area could affect Nuiqsut harvesting success during the construction and operation phases. Impacts of air traffic to caribou resource availability would be most likely during the fall when caribou migrate in an easterly direction, often crossing through the Project area into areas heavily used by Nuiqsut caribou hunters (Figures 3.16.7 and 3.16.8; Figure E.16.2 in Appendix E.16).

[21] Vol. 1, p. ES-8. This is based on 35,713 total projected flights spread over 30 years. That may be the "best case" scenario given CPAI's history of underestimating its flights at Alpine. On the other hand, CPAI needs to be thinking about as many ways to reduce extra plane trips as possible, such as using slightly larger planes to deliver more people or material in one trip. There are some questions involved in that tradeoff as well since larger planes tend to cause more disturbance on the ground than smaller ones, but again, that approach would probably be acceptable at Willow if it reduces the overall number of flights. This is just one more hard question that will need to be answered going forward.

[22] Vol. 1, p. ES-8 (36,183 total flights over 30 years).

[23] Appx. G, p. 26.

[24] Vol. 1, p. ES-8 and Appx. G, p. 27. Alternative D would require more additional flights: about one extra flight per day compared to Alternative B. We're less sure that would be an attractive option for most people in Nuiqsut, especially considering that there are *some* people who will want to use the access

unacceptable if the potential benefit is reducing potentially generational changes in caribou migration.[25] In fact, we think Nuiqsut hunters and residents could be open to this alternative or the roadless BT4/BT5 alternative if they knew more about the precise flight numbers and routes the planes would be using. Without those details, Kuukpik and Nuiqsut can only speculate on these key details, which makes it much harder to evaluate whether Alternative C or D or a different roadless alternative would be preferable to Alternative B.[26]

Having said that, the Draft EIS suggests that BLM realizes the roadless alternatives may be better than the Preferred Alternative from a subsistence perspective. For Alternatives C and D, BLM concludes that the "Increase in air traffic impacts would be offset by decreased infrastructure and potential for deflection."[27] The ANILCA 810 analysis repeats this conclusion:

> [Alternative C:] The increase in air traffic would likely be offset by decreased ground traffic between the WPF and BT4, and lack of gravel infrastructure and associated human activity between the WPF and BT1 during the peak caribou hunting season. … [I]mpacts to caribou resource availability would likely be reduced under Alternative C.[28]

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road beyond GMT2, which this alternative would eliminate. So even though we think Alternative D would reduce some impacts, it's not necessarily Kuukpik's preferred alternative at this point either.

[25] Vol. 1, p. 141 ("Use of Project roads and/or avoidance of previously used areas could cause an overall shift in hunting areas and may result in a loss of knowledge, particularly among the younger generation, of traditional hunting methods and use areas."); see also p. 142:

> Impacts to sociocultural systems resulting from changes to subsistence resource availability and harvester access are most likely to occur for the community of Nuiqsut, as Nuiqsut harvesters most frequently use the potentially affected area and are most likely to experience direct and impacts. However, Utqiaġvik harvesters may also experience changes to sociocultural systems if the Project affects harvesting activities in the vicinity of Teshekpuk Lake or winter furbearer harvesting activities. Given the relationships between communities and the sharing of resources throughout the area, sociocultural effects could extend beyond Nuiqsut and Utqiaġvik. Though this is unlikely due to the Willow Project alone, when added to other past, present, and reasonably foreseeable future actions, the likelihood could increase, as discussed in Section 3.19, Cumulative Effects. Impacts on sociocultural systems from drilling and operations would be long term as these changes would affect current residents' use of and relationship to the area, and these changes would be transmitted to the next generation.

[26] This information should also be used to determine whether certain flight restrictions—like seasonal or daily flight limits in key areas—could reduce localized impacts from air traffic, thus making these alternatives more acceptable. Flight restrictions should be considered especially during May and June when caribou and birds are most active in the areas around and south of Willow.

[27] Vol. 4, Appx. E.16, p. 50.

[28] Vol. 4, Appx. G, p. 26.

The analysis of Alternative D is even more specific and provides more of the nuances of this tradeoff:

> Per the Willow MDP EIS, Alternative D may result in less impacts on caribou availability due to the lack of a year-round access road. While air traffic levels would be somewhat higher, air traffic generally causes localized disturbances whereas roads can cause larger effects on caribou movement and distribution. The increase in air traffic would not be enough to outweigh the benefits of reduced deflection of caribou as they migrate toward the Nuiqsut's core hunting grounds to the west of the community. Additionally, while the Project area would not be road-accessible year-round for Nuiqsut hunters, they would likely still continue to use existing roads and hunt in the area between GMT-2 and the Project area.[29]

In short, BLM's own analysis shows that the modest increase in flights needed to support Alternatives C and D would probably be less disruptive overall than the roads that would be required under Alternative B. BLM's preference for Alternative B therefore sharply conflicts with the ANILCA 810 analysis and makes Kuukpik question why BLM prefers CPAI's proposed alternative over those that would reduce impacts further. Kuukpik also believes the roadless BT4 and/or BT5 option could be better overall than either Alternative C or D because it would offer the maximum amount of road access to both substance users and CPAI, while nevertheless eliminating very significant portions of road that are not as useful to either CPAI or subsistence resources. For all these reasons and more, Kuukpik strongly urges BLM to analyze the alternative of constructing BT4 and BT5 as roadless satellites.

II. Kuukpik cannot support the Willow project unless major changes are made.

In fact, the Draft EIS doesn't seem to pay much attention to the conclusions in the ANILCA 810 analysis at all, or appreciate the level of changes that are going to be necessary if Willow is ever going to strike a responsible balance between development and subsistence. The Draft EIS—and the ANILCA 810 analysis in particular (buried back in an appendix of the EIS where it's easy to overlook)—predicts that proceeding with the preferred alternative could have dire consequences. First, there's the direct impacts from building a series of drill sites and production facilities in an area that the Draft EIS acknowledges is "heavily used by Nuiqsut residents for subsistence, particularly for harvesting of caribou and furbearers (wolf and wolverine)…."[30] In fact, it's suggested that between 5-19% of annual caribou harvests by Nuiqsut hunters occur directly in the project area.[31]

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[29] Vol. 4, Appx. G, p. 27.

[30] Vol. 4, Appx. G, p. 9.

[31] Vol. 4, Appx. G, p. 9; see also Vol. 1, pp. 139-40:

Numerous studies suggest that the vast majority of those harvests would be lost as a result of avoidance. Historical data showed that very few caribou have traditionally been harvested within 5 miles of an oil development, and only slightly more at a distance of 6-17 miles.[32] Three of the proposed Willow drill sites (BT1, BT2, and BT3) are about 5-6 miles apart from each other, meaning they are each within the general distance that is historically effectively unused for subsistence. In short, avoidance will eliminate most of the Willow project area from being used much for subsistence.

If BLM's information is correct, that could mean an immediate loss of up to 19% of Nuiqsut's caribou harvests in a given year. But in fact the number is probably higher because the Draft EIS only calculates avoidance on a 2.5 mile radius rather than the 5 miles BLM has previously cited and which Kuukpik has long believed to be more appropriate.[33] So these projections of harvests lost as a direct effect of avoidance are a *minimum*, at best. The real impacts could be double that or more, depending on what specific areas are most likely to be avoided.

That's quite troubling considering how serious Willow-related impacts are already predicted to be. The analysis acknowledges that the Willow access and infield roads may not provide much offsetting benefit to hunters. So between the likelihood that fewer people will use those roads and avoidance of the facilities generally (even using just the 2.5 mile estimate), the ANILCA 810 analysis concludes:

> The totality of limitations on subsistence access associated with the Project, particularly during the 7-year construction phase but lasting through the life of the Project, would constitute a substantial restriction on subsistence access for Nuiqsut residents....[G]iven the importance of caribou availability and access to traditional

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> Tables 3.16.5 and 3.16.6 summarize the percent of harvesters using the alternatives analysis area. During an approximately 10-year period between 1995 and 2007, 88% of Nuiqsut harvesters and 11% of Utqiaġvik harvesters reported using the alternatives analysis areas (Table 3.16.5). For both communities, wolf and wolverine were the primary resource targeted, followed closely by caribou. Between 2008 and 2016, between 29% and 61% of Nuiqsut caribou harvesters used the alternatives analysis area on an annual basis; 84% used it over a 10-year period (Table 3.16.5). Thus, up to 84% of Nuiqsut caribou harvesters could be directly affected during one or more years of the Project, with smaller numbers on an annual basis.

[32] 2012 NPR-A IAP/EIS, Vol. 1, p. 423 ("Nuiqsut caribou harvests within the developed areas in 1993 were at or near zero. Four percent were within 5 miles of developed areas, 17 percent were harvested from 6 to 15 miles, and 79 percent were harvested more than 16 miles from development."). In some areas near Nuiqsut, Kuukpik believes that has been changing over the last few years as a result of the increased subsistence access provided by the Spur Road, but it's unrealistic to expect many hunters to use the main project area for the reasons already discussed.

[33] Vol. 4, Appx. G, p. 20.

> hunting areas to Nuiqsut hunters, the BLM expects that limitations to subsistence access and the reduced resource availability anticipated to occur over the 30-year Project life...would result in an extensive interference with Nuiqsut hunter access.[34]

In light of these findings, it is appalling and unacceptable that BLM considers Alternative B its preferred alternative.

And it gets worse. The second major conclusion of the ANILCA 810 analysis is that the Willow Project's overall layout is arguably the "worst case" scenario in terms of disrupting and deflecting caribou. The area between Willow and Nuiqsut is a major migration corridor for both the Teshekpuk Caribou Herd and Central Arctic Herd and is a "high use subsistence area" for Nuiqsut residents because of its accessibility *via* the Spur Road and GMT1 (soon to be GMT2) road. The Draft EIS estimates that between 14-43% of harvests occur here; that's up to nearly half of all caribou taken for Nuiqsut's subsistence needs. [35]

The proposed Willow infield and access roads are both likely to significantly impact these caribou and therefore Nuiqsut's subsistence resources. The north-south orientation of the drillsites and their connecting roads, combined with the intersecting east-west access road from GMT2, will bisect and deflect caribou away from one or both roads.[36] In other words, no matter which way caribou are trying to move through this area, there will be a road blocking them.[37] And because these barriers would be so extensive, the deflection wouldn't just affect a few animals, but instead could alter the migration paths for large portions the entire herd. The ripple

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[34] Vol. 4, Appx. G, p. 25.

[35] Vol. 4, Appx. G, p. 9.

[36] Vol. 4, Appx. G, p. 17 ("The Alternative B Project access road would bisect a portion of the fall migration corridor and would occur in areas heavily used by TCH caribou in some years (during both the summer and winter months)...Thus, roads associated with the Project have a high potential for disturbance of caribou and Nuiqsut caribou hunting activities....").

[37] See Kuukpik Scoping Ltr., p. 22:

> As currently proposed, the Willow infield road system is laid out on a virtually direct north-south line. That alignment is arguably a "worst case" design scenario in terms of caribou and subsistence impacts. Why? Because the vast majority of caribou in this area are moving west to east during the caribou harvest—which is directly perpendicular to the proposed road and pipeline. This is critical because a road that's elevated about 5-7 feet off the ground, coupled with a pipeline that's about 7 feet off the ground, and that lies directly perpendicular to the path of migrating caribou has a maximum "picket fence" effect visually. In other words, CPAI's proposed infield road and pipeline layout is probably the *most* likely of any option to deflect and deter caribou from crossing road and pipeline routes.

effects could be enormous for Nuiqsut because fewer caribou would move through core hunting areas "downstream" from Willow towards Nuiqsut (where according to BLM some 14-43% of harvests may occur).

> The Draft EIS/ANILCA 810 analysis confirms all this:
>
> Effects on caribou movement are most likely to occur where linear structures are placed parallel to the herd's primary movement, though perpendicular roads may also intercept caribou and cause delayed crossing. The Alternative B access road, where it intersects with infield roads, could create a "pinch point" and deflect caribou away from the road during the fall migration. An overall deflection of migration could have substantial impacts to residents hunting caribou in overland areas during the fall…
>
> [I]t is reasonable to conclude that resource availability would be affected as a result of the road and subsistence hunters may experience decreased overall hunting success during certain years as a result.[38]

So let's be clear: BLM's own analysis shows that the perpendicular road layout that BLM and CPAI apparently prefer could be one of the most significant impediments to successful caribou migration and subsistence that Nuiqsut has ever faced. The area east of the proposed Willow project is both key caribou habitat and high value subsistence areas. The combination of Willow's north-south layout and east-west access road will deflect and delay caribou attempting to migrate through this high value area, potentially on a scale that far exceeds any recent oil and gas development in Nuiqsut's subsistence range. If this deflection impacts entire migration routes, Nuiqsut will suffer direct and potentially enormous consequences. Not a pretty picture, to say the least.

It should therefore be no surprise that Kuukpik cannot support the alternative proposed by CPAI and preferred by BLM. To support Alternative B, Kuukpik would have to accept that all the serious risks and consequences predicted in the Draft EIS are simply unavoidable. But Kuukpik doesn't believe that for a second. We have seen enough oil projects to know that, with enough effort and willingness to make hard choices, projects that sound disastrous when they are first proposed can be changed enough to strike an acceptable balance between development and the community's subsistence and other needs.

III. Alternative B appears to have the most impacts, not the least.

The risk of this process being seen as a rubber stamp is very real here. As discussed already, much of the analysis in this Draft EIS suggests that Alternatives C and D would have less impacts on subsistence than BLM's preferred alternative. So Kuukpik has to wonder why

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[38] Vol. 4, Appx. G, pp. 16-17 (internal citations omitted).

BLM prefers Alternative B. Remarkably, the Draft EIS does not explain that decision. So we are left to guess why BLM supports CPAI's proposal despite the fact that it appears to have the most negative impacts by nearly every important measure.

We've already described some of the Draft EIS's conclusions that Alternative B would likely have more impacts on caribou movement and subsistence than either of the other alternatives. By eliminating a portion of the infield access road between two of the middle proposed drill sites, Alternative C would be an improvement in several ways. First, major facilities would be relocated to the south into areas that are at least a little less used by migrating caribou, particularly maternal and calving females.[39] Alternative C would also eliminate about four miles of the main north-south road barrier that Kuukpik and the community are so concerned about, potentially allowing significantly more caribou movement through the middle of the Willow Project area and reducing caribou deflection to the far north or south. Finally, Alternative C would eliminate the perpendicular "pinch point" between BT1 and the WPF, which the Draft EIS identifies as a particularly problematic aspect of Alternative B. Instead, that area would be open and could become a high use migration corridor along the Judy Creek drainage—an area that Kuukpik (and BLM) believes would be valuable for both caribou and the hunters who depend on them.[40] And as discussed above, based on what we know now, the number of flights required to facilitate this alternative doesn't seem unacceptably high. Together, these differences strongly suggest that Alternative C would be preferable from a subsistence perspective to Alternative B.

Alternative D would provide most of these benefits as well and go even farther by eliminating both the pinch point and the Willow Access road entirely. Although the latter change would involve significant other tradeoffs (especially in terms of access and air traffic), it would quite obviously eliminate a huge impediment to north-south migration between GMT2 and Willow.

Alternatives C and D would reduce the impacts that Kuukpik and Nuiqsut are most concerned about, compared to the preferred alternative. Minimizing caribou deflection should be

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[39] See Vol. 2, Fig. 3.12.3.

[40] "Overall, impacts to the disturbance of caribou under Alternative C could be reduced compared to Alternative B because more caribou may move north of the GMT-2-WPF access road due to the roadless corridor along Judy (Iqalliqpik) Creek." Vol. 4, Appx. G, p. 25. We believe that's most likely true, but also note that another way of looking at this corridor is that it will just funnel a lot of caribou into a comparatively small corridor, which could cause its own negative impacts. Those negative impacts could lend further support to a roadless satellite option that eliminates road segments without creating a funnel effect. The Final EIS should evaluate whether the gap in Alternative C would have any countervailing negative impacts that need to be considered.

at the top of BLM's list when it comes to selecting a preferred alternative. By that measure, there's little doubt that Alternatives C and D are preferable to Alternative B.

Of course, Kuukpik understands that's not the only measure by which these projects must be evaluated. Each alternative would involve tradeoffs, and there's no guarantee that Alternative C or D would end up being preferable overall. But if BLM intends to select an alternative that appears the most likely to negatively impact subsistence, it must explain that decision in detail. Otherwise, this whole process smacks of simply approving what CPAI proposed rather than analyzing alternatives that CPAI may not like, but which would be far better for the people of Nuiqsut.

The lack of explanation also makes it impossible for Kuukpik and Nuiqsut to comment on whether it agrees with how BLM is weighing each of the competing interests and factors that go into a decision about which of these alternatives might ultimately be preferable. Right now, there's no discussion of the factors BLM weighed, or what impacts it decided were so important that they justify the increased impacts Alternative B is expected to have on subsistence. Given the magnitude of the projected impacts on Nuiqsut, BLM needs to explain how it reached its conclusion and give Nuiqsut residents another opportunity to provide their opinions on how these factors should be weighed and whether BLM has gotten it right.

One possible explanation is that BLM may be falling into the old trap of simply equating "gravel footprint" with impacts. Table ES.1, for example, shows that Alternative C's footprint is about 10% bigger than Alternative B's. The Table uses that information—and only that information—to conclude that Alternative C has the "Greatest potential for subsistence hunter avoidance due to larger infrastructure footprint" and "Greatest direct loss of subsistence use areas due to increase in overall infrastructure footprint." But those conclusions are misleading. In fact, as between Alternatives B and C, there's very little practical relationship between increased gravel footprint and more hunter avoidance. Modestly larger pads at BT1, BT2, and BT4 (under Alternative C) wouldn't affect hunting patterns nearly as much as the fact that there would be no road connection to those drill sites. The exact impacts of that would be mixed, but that's not really the point here.

The point is that simply treating gravel footprint as a proxy for avoidance—or worse, for subsistence impacts generally—is overly simplistic and usually flat out wrong because so many other factors are equally or more important when to comes to evaluating an alternative's impacts on subsistence. Equating gravel to avoidance (as in Table ES.1) distorts reality and makes Alternative B look better by comparison when the truth is that the disconnected road in Alternative C would probably facilitate a lot more caribou movement through road-accessible hunting areas, resulting in *less* avoidance of areas along the Willow access road and the project

itself.[41] It may even make the whole Willow area more attractive if, in fact, more caribou ended up traveling through the gap between BT1 and the WPF.[42]

The comparative analysis of gravel road impacts in Table ES.1 is equally baffling. Elsewhere, the Draft EIS does a reasonably good job describing how gravel roads serve as barriers to migration and deflect and delay caribou from their normal migratory paths. Table ES.1 even acknowledges the common impacts from gravel roads: "Disturbance and displacement of birds, caribou, and polar bears"; "Delayed or deflected movement of caribou from new linear infrastructure."[43] This summary of affected resources would lead one to believe that the Table will go on to conclude that more roads will result in more deflection, and less roads results in less deflection (and are therefore preferable). But you'd be mistaken. Instead, the only conclusion drawn for Alternative B—which has the most gravel roads of any of the proposals—is that it would have the "Most gravel roads for subsistence access." This is a selective, incomplete, and erroneous conclusion that doesn't flow from the impacts cited in the table. Alternatives C and D are then seemingly criticized because they would have "fewer" and the "fewest gravel roads for subsistence access," respectively.

The fact that BLM completely omitted the fact that Alternative B would be most likely to deflect and disturb caribou is astonishing. How can this comparative analysis just omit what it is arguably the single most important conclusion in this entire EIS and the factor that basically differentiates all the alternatives from each other? It's almost as if that conclusion—reached and expanded upon elsewhere in the Draft—was simply too inconvenient to be included in the Executive Summary's table of impacts. That's a pretty egregious omission, especially considering how many people are likely to focus on this table to try to decide which of these alternatives is the least bad.

Kuukpik understands Table ES.1 is a summary (and that this whole EIS is, shall we say, abbreviated). But omitting the conclusion that flows from the single most distinguishing feature

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[41] Another confusing feature of the Alternative B impacts summary (and design generally) is the proposal to truck diesel to Willow instead of simply including a diesel pipeline on the VSMs that will be constructed anyway to support the sales line. That's already CPAI's plan for Alternatives C and D (though we aren't sure why the diesel pipeline would run all the way to Kuparuk CPF2 when there's already such a pipeline from there to Alpine; see Vol. 1, p. ES-3). Why wouldn't CPAI do that for Alternative B as well in order to reduce heavy truck traffic on the Willow Access Road? That change would affect several of the calculations in Table ES.1.

[42] Kuukpik also notes that although we agree Alternative D has the "Least potential for subsistence hunter avoidance", that's because it leaves a huge area of land between Nuiqsut and Willow undisturbed and therefore more attractive for hunting, not because it involves less acres of gravel on the tundra. This is another example of gravel footprint bearing essentially no relation to the avoidance effects of a particular alternative.

[43] Vol. 1, p. ES-7.

among these alternatives—subsistence impacts due to roads and road layouts—is inexcusable. The summary needs to be very clear that the alternative with the most roads, Alternative B here, is without a doubt the most likely to seriously disrupt caribou migration.

Even where BLM has included the correct information, its summaries don't support the preference for Alternative B. The Draft indicates that both Alternatives C and D would have "decreased potential for deflection" as compared to Alternative B, a conclusion supported in great detail by the ANILCA 810 analysis. Alternative C's southerly location for the Willow CPF and major infrastructure would also "affect fewer caribou".[44] It has two fewer bridges and requires about 700,000 fewer ground vehicle trips.[45] Many other comparative impacts are a relative wash in the grand scheme of the project, leading us to further question what exactly made BLM decide Alternative B was superior when so much of the impacts comparison seem to cut in favor of Alternatives C or D.

If BLM's preference is based primarily on differences in gravel footprint and the assumption that *any* alternative that increased flights would, by definition, be a non-starter for Nuiqsut, Kuukpik thinks BLM is mistaken and its conclusion flawed. As we've indicated above, the community may accept some additional flights if it means significantly reducing the risk of deflection by infrastructure on the ground, especially in particularly sensitive areas such as those around BT4. And although gravel impacts to the tundra are a serious concern for Kuukpik, the prospect of mass deflection of two key caribou herds is much, much more important. We hope the Final EIS and BLM's recommendations based on it will give serious weight to the preferences of Nuiqsut residents instead of simply assuming that the Draft is already basically correct or that Alternative B is good enough.

IV. Kuukpik and Nuiqsut are categorically opposed to the proposal to construct an effectively permanent island in Harrison Bay just to facilitate two sets of barge deliveries.

As BLM has become increasingly aware throughout this NEPA process, there is essentially total opposition in Nuiqsut to CPAI's proposed Module Transfer Island (MTI). Throughout the public meetings and Kuukpik's consultations with BLM, BLM has heard nothing but negative comments about the island in general and many of the proposed details. We believe many of these concerns have been communicated clearly enough that we will not dwell on them in great detail here. But we strongly urge CPAI and BLM to consider alternatives to the proposed MTI and to analyze at least some other alternative in the Final EIS. If the Final EIS does not contain any other proposals, then BLM wouldn't even legally be able to select any another alternative. BLM cannot let that happen.

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[44] Vol. 1, p. ES-5.

[45] Vol. 1, pp. ES-7 and 8.

The Draft EIS does nothing to dispel the concerns Kuukpik has always had about building the MTI in the already-shallow waters of Harrison Bay. It's simply not a good alternative, let alone meeting the Corps of Engineer's standard of the least environmentally damaging practicable alternative. Kuukpik emphasized this point in its scoping letter:

> First, the offshore area in and near the island's proposed location is very shallow and already difficult to navigate for boaters trying to access Fish Creek. Constructing—and then abandoning—a gravel island in this area will only make that worse, especially as (or "if") the gravel disperses to the east and south towards (and across) the mouth of Harrison Bay and towards the Fish Creek Delta. This is a real navigational concern considering the gravel island alone would introduce close to half a million cubic yards of gravel into an area where navigation is already challenging because of unpredictable sand and gravel bars and ice flows and generally shallow water.[46]

The point of that information was to emphasize that already-existing navigational problems at the mouth of Fish Creek will only get worse if the MTI is constructed, especially if the island is just abandoned and allowed to fester as a navigational obstruction and then as a source of additional silt to clog the mouth of Fish Creek and other areas used by Nuiqsut subsistence boaters.

The Draft EIS mentions this concern in passing, but concludes there's nothing to worry about.[47] But the Draft doesn't cite any scientific study or information to dispel Nuiqsut's concerns.[48] It just notes the issue and then blithely concludes that no problems are expected to occur without any evidence to support that "expectation". But that "expectation" isn't even consistent with impacts other offshore operators have acknowledged, which is that artificial near-shore islands *do* affect currents and sedimentation by producing artificial shoaling that affects

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[46] Kuukpik Scoping Ltr., p. 28.

[47] See Vol. 1, p. 145:

> A key concern voiced by stakeholders in regards to the Atigaru Point MTI is the potential for decreased access to coastal areas based on erosion and sedimentation around the island. Residents of the community of Nuiqsut have reported changes to the coastal area between the mouth of Fish (Iqalliqpik) Creek and Atigaru Point that have resulted in shallower waters and navigation issues. They are concerned that the MTI could contribute to the increasingly shallow waters in Harrison Bay, then it could further decrease access to coastal hunting areas as well as access into Fish (Iqalliqpik) Creek. Similar to other barrier islands in the Beaufort Sea, small amounts of shoaling may occur on the leeward side of the MTI; however, no additional accretion or further shallowing of the MTI area would be expected to occur (Section 3.8, Water Resources). Besides the MTI itself, no additional navigational hazard are expected for boaters.

[48] See Vol. 1, pp. 68 and 145.

navigation.[49] Kuukpik therefore has no confidence in the Draft EIS's conclusion and wishes to reiterate what whalers and other users have consistently reported to BLM: sedimentation around these nearshore islands is a problem, and the MTI would only exacerbate those problems in an area that is already shallow and difficult to navigate.[50]

Not only does the Draft EIS not acknowledge these problems, it downplays the negative consequences by suggesting that Fish Creek is no longer as important for subsistence purposes as it once was.[51] And remarkably, the Draft even attributes this purported decline at least in part to the difficulty people have navigating into Fish Creek from Harrison Bay. We look forward to seeing the "forthcoming" study this statement is based on. But whether that's true or not, it's all the more reason NOT to add to the problem, not a reason why adding to the problem wouldn't be a big deal.[52] Kuukpik believes Fish and Judy Creeks will both continue to be important subsistence access routes going forward, especially as more oil development is constructed in land-accessible areas. BLM should be encouraging and facilitating those kinds of shifts to help make up for areas lost to subsistence, not writing off areas just because they're harder to get to.

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[49] Hilcorp's Liberty DPP Environmental Impacts Assessment, pp. 4-6, acknowledged such changes in the Sag River Delta and Endicott areas:

> In that nearshore area within the shallow waters of the Sagavanirktok River Delta, survey comparisons from 1989 to 2010 indicate average rates of sediment deposition to be as high as 1.6 inches/year (Yager 2011). Over the 27 years since completion of Endicott construction, this has resulted in localized shoaling adjacent to the inter-island causeway of as much as 3.6 feet. Adverse impacts to shallow water navigation have resulted.

[50] Accordingly, in addition to considering alternatives to the MTI, the EIS needs to consider the least harmful way to remove that gravel, at least to the point where it doesn't pose a long-term navigation hazard to boaters or serve as an impediment to fish and animals along the coast. Without that analysis, BLM or another agency may not even be able to require the island be removed at all because there would be no environmental analysis of the most appropriate way to do so.

[51] Vol. 4, Appx. G, p. 39 ("Hunting along Fish Creek by boat in the summer continues to be an important subsistence activity but the frequency has decreased in recent years; reasons for the decrease in use include difficulty accessing the mouth of Fish Creek due to increasingly shallow waters in nearshore areas near the mouth of the creek, and the high costs associated with traveling to Fish Creek via Harrison Bay (SRB&A Forthcoming).").

[52] The proposal to just use gravel filled bags for slope protection on the island is another unnecessary risk. Using polyester bags of gravel is the cheap way to armor this island. In the past, those types of bags did not hold up to weather and ice conditions very well, ripping apart over time, leaving debris from the bags (or entire bags) floating in the water. Kuukpik's President, for example, once broke a motor shaft on one such bag—a costly and dangerous experience. And as the bags break apart, the gravel inside them will spill out, adding sediment and exacerbating the problems we are concerned about in the first place. There is simply no justification for not using concrete armoring if the island is ultimately constructed. Even though the MTI is not intended to be a permanent facility, it shouldn't be built in a way that basically *maximizes* the risk of leaving trash and debris in Harrison Bay.

Kuukpik has already suggested CPAI build boat ramps at Fish and Judy Creeks to provide just this sort of expanded access.

The Draft EIS also downplays or under-estimates the likely effects of introducing an unnatural island on bowhead whales and other aquatic species.[53] As BLM knows, bowhead whales are a vital subsistence and cultural resource for Nuiqsut. Each spring, they migrate east to the north of the proposed MTI and pass it again during the westward migration in August or September.

It's therefore nearly incomprehensible that BLM has summarily concluded that the MTI will not have any meaningful impacts on whales and whaling.[54] In fact, it gets this whole analysis wrong by concluding that there wouldn't be any meaningful impacts because (i) the island would be outside Nuiqsut's hunting grounds, and (ii) BLM believes whales do not pass close enough to shore to be impacted by either the island or vessel traffic.[55] Although it's true that the MTI location is not squarely within Nuiqsut's hunting grounds, the vessel traffic and noise associated with construction of the island, activities on the island, and delivering the modules could impact or deflect migrating whales, seal populations, and fish and other species.[56] And even though the island itself would not be located in subsistence whaling areas, bowhead whales do pass through Harrison Bay in meaningful numbers, usually to rest or escape stormy seas. If the island and shipping activities associated with it impact the overall health of the bowhead whale, seals, and other populations, there would be real repercussions in Nuiqsut and Utqiagvik (since the island is "upstream" from that community's whaling grounds) and across the North Slope.

In other words, activities that harm bowhead whales outside of Nuiqsut's whaling grounds are nevertheless very, very relevant and important to Nuiqsut. The question is not just

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[53] Vol. 4, Appx. G, p. 29 ("Nuiqsut harvesters also use the offshore area in Harrison Bay surrounding the MTI for subsistence harvesting of bearded seal (30% of harvesters), ringed seal (22%), and eider (11%).").

[54] Vol. 4, Appx. G, p. 29 ("While the bowhead whale hunt is a culturally important subsistence activity and provides a large portion of the Nuiqsut's annual subsistence harvest, the community's whale hunting activities occur a substantial distance east of the potentially affected area, near Cross Island. Thus, impacts to bowhead whale hunting associated with the Project are unlikely."). From Kuukpik and Nuiqsut's standpoint (and in reality), if it affects the whales, it affects Nuiqsut's hunt.

[55] Vol. 1, p. 114 ("Bowhead and beluga whales harvested by Utqiaġvik (Barrow) and Nuiqsut in the fall and spring would not be disturbed by the increased vessel traffic between Atigaru Point and Oliktok Point because their migration corridor is generally in depths greater than 60 feet and all vessel traffic would occur in shallower water.").

[56] If the island is ultimately built, any deliveries and vessel traffic would need to be scheduled around fall whaling and be planned to have as little impact as possible on Nuiqsut subsistence users and on bowhead whales, seals, and other aquatic species.

whether the MTI would actively displace hunting (it likely wouldn't); it's whether the impacts from the island, both short term and over time, could alter whale behavior or populations in ways that would impact subsistence users long-term. The Draft EIS simply doesn't ask, let alone answer, those questions.

The Draft also doesn't pay enough attention to non-whaling impacts. Nuiqsut hunters, for example, target multiple species of seals in Harrison Bay, not that far from the proposed location of the island. The Draft EIS eases right past this potential conflict, downplaying the risk of "periodic displacement."[57] This is one of those phrases that sounds mundane until you realize that it means hunters who would have otherwise succeeded in their hunt for food and fur will, instead, fail. As Kuukpik has been saying for years, local impacts are very, very real to the people who experience them.

There would also be real impacts onshore. BLM estimates that up to 94% of Nuiqsut subsistence hunters could be "directly affected" by CPAI's proposed island because caribou would be displaced and disturbed to the point where they would be less available to subsistence users.[58] The alternative island location at Point Lonely fares no better.[59] This is not surprising because the entire shoreline of Harrison Bay out to Pont Lonely is some of the most critical caribou habitat in this area, particularly for fly relief during the summer.[60] Yet the Draft elsewhere downplays these impacts by treating the impacts as if they would only occur in winter.[61] But there would be significant summer work at the island, including the module delivery itself, which by definition must occur during open water season when caribou are most likely to be active along the coastline.[62] There is simply no way that either of these MTI options can avoid having significant impacts on caribou resources.

Eliminating the MTI would also vastly reduce the amount of gravel needed for the project. That could benefit locals if it meaningfully reduced the amount of blasting needed to mine the gravel. It would also conserve a scarce resource on the North Slope rather than dumping it on the floor of Harrison Bay.

For these and other reasons, Kuukpik urges BLM to go back to the drawing board and generate other options for delivering the modules to the Willow project area. Kuukpik believes

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[57] Vol. 1, p. 145.

[58] Vol. 1, p. ES-10.

[59] Vol. 1, p. ES-10.

[60] Vol. 2, Fig. 3.12.6.

[61] Vol. 4, Appx. G. p. 39 ("The area is not heavily used by caribou in winter and does not have a high density of wolf or wolverine; thus, the abundance of caribou, wolf, and wolverine available for subsistence use would not be impacted under Module Transportation Option 1.").

[62] Vol. 1, p. 68.

the community's reasons for opposing the MTI are valid and that the MTI should not go forward.[63] BLM should therefore work with CPAI and local stakeholders to develop additional options and release those options for an additional public comment period prior to publication of the Final EIS. Stakeholders are entitled to an opportunity to comment on any alternatives that are not included in the Draft EIS. And since BLM did not even bother to include at least one alternative that doesn't include the MTI, it will have no choice but to analyze new alternatives when they are developed. Kuukpik looks forward to additional discussions on this issue and to developing an alternative that could work for the community rather than against it.

V. The nearly unavoidable impacts from mining confirm that minimizing impacts elsewhere is critical.

Kuukpik previously described its concerns with the proposed mine site just 7 miles away from Nuiqsut.[64] The Draft EIS mostly confirms those fears, and in fact increases some of them. For one thing, it appears CPAI now believes it will need to blast for 5 years instead of the 4 that Kuukpik and Nuiqsut previously understood were likely.[65] This remains deeply concerning for the same reasons we stated previously:

> One of Nuiqsut residents' other chief concerns is that CPAI plans on blasting a total of at least 4 seasons (2020-2023 for BT1 through BT3 and main infrastructure, then again in 2027-28 for BT4 and BT5). The proposed site is just 2-3 miles farther from the village than the ASRC Mine Site, where blasting rattles the windows in Nuiqsut and effectively drives some residents to travel out of town during periods of mining activity. Though the impacts in town from blasting at the proposed new mine should be somewhat less than that, they may still be considerable. And based on the reaction to this past year's gravel mining, there is likely to be considerable resistance in Nuiqsut to the idea of three consecutive years of blasting. CPAI and BLM need to look at alternatives to reduce these impacts to both subsistence users and the village itself.[66]

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[63] BLM has resisted some of Kuukpik's requests to look at ways to mitigate impacts at the MTI by arguing that the island would not be regulated by BLM (because it's offshore). That may be true, but it's not particularly relevant to the question of whether other alternatives need to be explored in the EIS. BLM is conducting the NEPA analysis, which other agencies will look at to inform their decisions. So BLM's decisions to screen out options affects the universe of options that it can select, but also that other agencies can and will select down the road.

[64] Vol. 1, p. 22.

[65] Vol. 1, p. 52.

[66] Kuukpik Scoping Ltr., p. 33.

The Draft EIS does not seem to include any discussion of alternatives that would speed up the mining process or require it to be accomplished in fewer seasons. The Final EIS should explore such options.

The Draft EIS also largely confirms Kuukpik's earlier comments regarding the mine's impacts on subsistence:

> The location of the proposed gravel mine site could be particularly disruptive to both caribou and hunters. The site is directly west of Nuiqsut in an area commonly reached by hunters traveling overland. Although blasting and excavation would occur during winter when caribou hunting levels are lower, Nuiqsut hunters do harvest caribou in the area in winter and the presence of the mine could deflect caribou movement year-round, resulting in localized distribution changes. The mine site would fill with water after construction and thus would no longer provide habitat for caribou; the mine site would remain as a pond(s) directly overlapping an overland hunting trail that heads west from Nuiqsut.[67]

Kuukpik agrees with most of this analysis. The mine will be quite disruptive in summer, but its impacts on winter subsistence impacts should not be overlooked or downplayed.[68] While it's true that the proposed mine area is used less during winter, winter activities that occur there tend to be particularly important. The area is mostly used in winter out of necessity when Nuiqsut hunters do not have enough food for themselves or their sharing network and are not having success closer to town.[69] Thus, impacts from blasting in this area during the winter could hit especially hard.

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[67] Vol. 4, Appx. G, p. 23; see also Appx. G, p. 15 ("The majority of the use of the alternatives analysis area for caribou hunting occurs in the eastern portion of the area surrounding the proposed gravel mine and access road.").

[68] Vol. 1, p. 137 ("Use of the direct effects analysis area by Nuiqsut and Utqiaġvik harvesters is highest during the winter (Figures E.16.1 and E.16.3 in Appendix E.16), although a substantial amount of summer and fall activity occurs in the eastern portion of the analysis area where the mine site is located (SRB&A 2010b, 2018a).").

[69] Vol. 4, Appx. G, p. 19:

> Noise associated with gravel mining (including blasting), mining equipment and machinery, and excavation, could cause caribou to avoid the mine site area or to act skittish. Blasting and excavation would occur over five construction seasons, primarily during the winter months, when caribou hunting levels are reduced. While winter is not the peak caribou hunting season for the community of Nuiqsut, harvests occur when caribou are available in the area and when households are in need of meat. Winter harvests are often an important source of food when stocks of summer and fall subsistence foods begin to run low. Winter caribou harvests have been documented occurring to the west and north of the community, including near the proposed mine site.

The proposed mine location and areas to the west of there are also important to Nuiqsut's fur trappers. As the Draft EIS correctly notes, trapping is not as critical from a food security standpoint as whaling and caribou hunting, but it has immense cultural significance and is an important inter-generational activity.[70] In fact, trapping has had something of a resurgence in recent years as several community members have increasingly focused on trapping and on passing this information along to the younger generation. Kuukpik wants to see those efforts succeed. Kuukpik therefore takes the Draft EIS's conclusion that the mine (and the Willow Project generally) will have significant impacts on trapping very seriously indeed. Those impacts would mostly occur in winter, again confirming that the mine poses a year-round and significant threat to subsistence activities.[71]

The Final EIS needs to make that clear, but also focus on ways to mitigate impacts from the mine. The Draft EIS doesn't often take its analysis to that second step. Instead, it identifies a problem but suggests there is either no way around it or that Nuiqsut residents will just have to deal with it. Certainly that's the implication in statements like this:

> Impacts to furbearers would be highest in winter when pile driving, mine site blasting and excavation, and ice road operations would occur. These activities would displace furbearers. Residents would likely use other areas where furbearers would be more available, but hunters would likely have to travel further with greater expense, effort, and risk, because the area west of the community is commonly used and easily accessible.[72]

Statements like this just confirm more and more that Nuiqsut will bear the brunt of the impacts from this project, and that BLM needs to go the extra mile in trying to figure out ways to reduce those impacts instead of just seemingly accepting that there's no way to avoid them. It also emphasizes that CPAI and BLM need to figure out ways to provide some benefits to the community as part of this project. This could mean things like including boat ramps for subsistence users at Fish or Judy Creek or both, and compensatory mitigation-type payments to

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[70] Appx. G, p. 9 ("While furbearers generally are not a food source for the community, furbearer hunting and trapping has cultural value as it is a specialized activity, often among highly active harvesters, which contributes to the local economy and provides materials for Native crafts and clothing. The alternatives analysis area is heavily used by furbearer hunters in Nuiqsut."); see also Vol. 1, p. 167 and Appx. E.16, p. 51.

[71] There would also be impacts to goose hunting, which like fur trapping is as significant culturally as it is for food purposes. "The gravel haul ice road between the MTI and the Tiŋmiaqsiġvik gravel mine site would bisect high overlapping use areas for goose on Fish (Uvlutuuq) Creek. Thus, residents would likely experience reduced access to a portion of their goose hunting areas when ice roads continue to be operational in April." Vol. 4, Appx. G, p. 41.

[72] Vol. 4, Appx. G, p. 24.

subsistence hunters that are forced to "travel further with greater expense, effort, and risk," as BLM puts it.

Finally, the serious impacts at the mine site underscore the need to reduce impacts elsewhere as much as possible. Unlike manmade facilities that can be designed and moved to reduce impacts, there's just no way to reduce mining impacts below a certain level.[73] So knowing that there will be a high level of unavoidable impacts in the proposed mine area, it becomes all the more important to reduce impacts where there *is* an opportunity to do so. This further supports the need to look at alternatives like the roadless BT4/BT5 and Alternative C that would *significantly* reduce the impacts associated with roads and other manmade facilities. We understand that's not what CPAI would prefer to do, but there are no good options here and hard choices have to be made. For every unavoidable impact, CPAI and BLM need to be looking elsewhere to see what better options there are. Kuukpik is not seeing a concerted effort to do that thus far.

VI. The Draft EIS overlooks or downplays other issues that need to be addressed in the Final EIS

Kuukpik and other stakeholders have raised a number of issues during scoping and the Draft EIS public meetings that BLM will need to address in the Final EIS. One of those is the impact a road-connected Willow project would have on the problems surrounding overland travel between Deadhorse and Utqiagvik. It's nearly certain that the growing number of people trying to drive between those two communities would want to use the gravel roads connecting Willow to the Alpine road system. This practice has increased significantly in the last couple of years, with more and more outsiders trying to drive street vehicles overland between those areas or Atkasuq, or to access or cross Kuukpik (and BLM) lands without benefit of ice roads or other accepted protection for the tundra and streams that these vehicles cross. This has resulted in ill-prepared travelers getting stuck on the tundra where Nuiqsut emergency personnel are called to tow them out (leaving those first responders unavailable to respond to emergencies). Other

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[73] See Vol. 1, p. 137:

> Around the mine site, noise associated with gravel mining, including blasting, mining equipment and machinery, and excavation, could cause caribou to avoid the mine site area or to act skittishly. Blasting and excavation would occur over five construction seasons, primarily during the winter months when overall subsistence uses are at their peak in the area. The presence of the mine site and associated ice roads could deflect movement of caribou through the area, resulting in reduced availability closer to Nuiqsut; use of ice and gravel roads by Nuiqsut harvesters to access caribou farther from the community could help offset these impacts; however, all gravel haul ice roads would be off limits to subsistence users during construction and therefore could act as a barrier rather than facilitating access.

vehicles have been simply been abandoned after breaking down on a snow trail. Kuukpik has also documented several instances of tundra damage, some of which has just been covered up with snow so it doesn't look so bad (until summer). And if members of the public from outside the North Slope begin to see this road as an exciting adventure—or worse, a fun hunting opportunity—as some almost certainly will, it will create real competition for subsistence resources on Nuiqsut's traditional subsistence range. This is one of Kuukpik's biggest concerns with the proposed road. The impacts of all this traffic have not been adequately analyzed to date even at current levels, and are only likely to increase if the GMT2 Road is extended to Willow.[74] The Final EIS must look at this issue in detail, especially as it relates to Alternatives B and C.

The Draft EIS also doesn't clearly recognize or acknowledge that Willow is not currently likely to provide meaningful economic benefits for locals. Instead, all the significant benefits flow elsewhere. Table 3.15.3 shows that Willow would generate large sums of money for the Federal government, the State government, and the NSB. As usual, most jobs will go to outsiders—not even people from the North Slope, but people from Anchorage and the Lower 48.[75] Even funds that are supposed to go directly to the communities in the NPR-A that are most affected by oil development—Nuiqsut—end up going elsewhere.[76] The Draft EIS also overstates the economic benefits Willow is likely to have on Kuukpik shareholders since the only economic interest Kuukpik has at Willow is through its subsidiaries and joint ventures, none of which is likely to generate the kind of revenue that would increase corporate dividends in the significant way the Draft EIS implies.[77]

Ironically, the Draft EIS looks at all that information and concludes that "The effects on Nuiqsut economics would not be highly adverse."[78] Did you catch that? Instead of telling the reader that Willow offers little economic benefit for Nuiqsut, the Draft EIS tries to put a positive spin on its findings by saying instead that at least there won't be "*highly adverse*" consequences. Perhaps Nuiqsut should see that as a relief, considering how many other impacts do seem to be highly adverse. But instead, what we see is a Draft EIS playing word games to try to gloss over the fact that there is really nothing in this for Nuiqsut from an economic perspective. Rather,

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[74] There would likely be further dramatic increases in such traffic if the potential West Willow, Cassin, and/or Smith Bay developments were constructed, leading to further increases in impacts to Nuiqsut's subsistence lands and resources.

[75] Vol. 1, p. 124.

[76] Vol. 1, p. 122. Statistics compiled as part of the GMT2 SEIS process showed that since 1998, only about 16 percent of NPR-A Impact Mitigation Funds had been allocated to Nuiqsut projects, even though Nuiqsut is far and away the community on the North Slope most affected by oil and gas development.

[77] Vol. 1, pp. 123-24, 127, 142, 167.

[78] Vol. 1, p. 150.

once again, Nuiqsut is expected to take all the risk and all the negative impacts without sharing in the benefits.

Nuiqsut residents also told BLM how concerned they are about air quality impacts at the Draft EIS/ANILCA 810 public hearing in October. Nuiqsut residents—and Kuukpik—expect CPAI and BLM and the NEPA process to take every reasonable step to understand and reduce Willow's contribution to air quality degradation on the North Slope and in Nuiqsut specifically. We won't detail those concerns again here, but incorporate by reference Kuukpik's Willow scoping letter to identify the issues and potential mitigation measures Kuukpik is most interested in. We want to make sure CPAI employs the most modern and efficient technology to reduce emissions as much as reasonably possible. Tier 4 generators and dual-fueled turbines are now standard on many North Slope oil and gas projects and should be used for initial primary power and for backup power after electricity is available instead of ULSD-fired generators. Construction and development should also be planned and staged so that electricity can be made available as soon as possible and initial temporary generator use limited.

CPAI and BLM have already heard repeatedly that air quality is a huge issue in the community. So even though Willow is farther away from Nuiqsut than other more recent projects (and "downwind" of the prevailing northeast-to-southwest wind pattern), the project and the NEPA process and any subsequent ROD (unified or by individual agencies) must take every reasonable and feasible step to minimize emissions impacts.[79] The prevailing winds are not always blowing, either, so the fact that Nuiqsut would be upwind of Willow sometimes when more common wind patterns prevail simply reduces (but does not eliminate) the times that Nuiqsut will be downwind of Willow and breathing emissions from Willow.[80]

Conclusion

For all of the stated reasons, the Draft EIS and the efforts to reduce Willow's negative impacts on Nuiqsut are currently inadequate. Please refer to the Technical Attachment to this letter for additional issues. We urge BLM to continue consulting with the community to generate additional meaningful alternatives and then solicit additional input prior to releasing a Final EIS. That's the only responsible way to approach the decisions that will profoundly affect Nuiqsut for many decades to come. Thank you for your time and attention.

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[79] One thing that might help residents understand and use the air quality data in the Final EIS would be to provide a chart showing projected pollutant levels in Nuiqsut compared to other areas like Fairbanks and Anchorage to show how Nuiqsut's air compares with other communities. The presentation could be limited to just a few major pollutants so people are not overwhelmed with information.

[80] Vol. 1, p. 157.

Sincerely,

KUUKPIK CORPORATION

By: Joe Nukapigak
President

cc: North Slope Borough Mayor (Harry Brower)
Planning Department (Gordon Brower)
Kuukpik Board of Directors
City of Nuiqsut
Native Village of Nuiqsut

TECHNICAL ATTACHMENT

Kuukpik Corporation Comments
on the Willow MDP Draft EIS

October 29, 2019

1. Vol. 1, p. ES-4, Section 6.5, *Sealift Module Delivery Options*. The Draft EIS claims it would take 10-20 years for the top of the MTI to drop below the water surface. This time frame is more realistic than earlier claims of 5 years, but it's still optimistic. The information arguably supporting that estimate is questionable at best because even the examples provided, Goose and Resolution Islands, may only be at or just below the water surface after 30 and 16 years respectively. See Vol. 1, p. 69. Resolution Island was in the Sag River delta, so it experienced more water movement than would be expected near Atigaru Point. Kuukpik continues to believe the proposed MTI will not dissolve as quickly as BLM thinks it will, if ever.

2. Vol. 1, p. ES-8, Table ES.1, *Summary of Key Impacts by Alternative*. Note that Alternative C is expected to have the lowest number of vehicle trips (2,340,368) compared to Alternative B (3,009,993). The daily number of expected vehicle trips for Alternative B would be about 275 vehicle trips per day (3,009,993 trips divided by 30 year project life). That's an enormous amount of vehicle traffic. Kuukpik will want to see much more information on where and when all these trips will occur and explore a multitude of options to reduce the overall number and the impacts they will have on the ground (such as requirements to caravan and to stop traffic when 25 or more caribou appear to be approaching the road).

3. Vol. 1, p. ES-11, Table ES.2, *Summary Comparison of Key Impacts by Sealift Module Delivery Option*. The Draft concludes that the multi-season ice pads for the Point Lonely option would have "More potential to affect caribou in summer because more caribou use the area closer to Point Lonely". This conclusion may not be correct because there should be little or no activity on the pads during summer if they are only used for staging materials between winter seasons (unless that is not the sole purpose or use?). Years ago at the Puviaq exploration area (which was also located in the Teshekpuk Lake Special Area), a drilling rig was stored on a multi-season ice pad during the summer. Kuukpik is not aware of any reports of negative impacts on caribou from the people who had cabins in the area.

4. Also on page ES-11, the DEIS states that there would be 200 fixed wing flights in winter for the Atigaru Point alternative and 320 flights (with 96 in summer) for the Point Lonely alternative. Why are no summer flights indicated for the Atigaru Point option? Why are there more fixed wing flights overall for the Point Lonely option? Both options have the same number of helicopter flights.

5. Vol. 1, p. 9, Section 2.5.2.3, *Other Import/Export Pipelines*. This section indicates that the new seawater pipeline will run from Kuparuk CPF2 all the way to the WPF (under the Colville River via HDD). Why is the diesel pipeline not expected to connect all the way

to the WPF? Trucking this (and potentially others) substance (and potentially others) seems inefficient and will unnecessarily increase vehicle traffic.

6. Vol. 1, p. 10, Section 2.5.3.1, *Ice Roads*. This section states that ice roads would generally be 8 inches thick. Kuukpik believes this is different from the usual 6 inches. Why the change? This section also states that a 70 foot wide ice road *just* for transferring the modules would be build alongside a 35 foot wide ice road for general traffic. Why is a separate road necessary? It seems like the 70 foot wide ice road could either be expanded an additional 15-20 feet or include pullouts to allow general traffic to use the same road as the modules instead of building a separate 35 feet wide ice road.

7. Vol. 1, p. 10, Section 2.5.3.1, *Gravel Roads*. This section states that gravel roads would be a minimum of 5 feet thick but average 7 feet thick due to topography. Kuukpik recommends exploring the feasibility of using insulating material (such as the rigid Styrofoam boards installed at the Nuiqsut runway this past summer) within the gravel roads in order to reduce the thickness and the amount of gravel needed. This could be added to the additional suggested mitigation measures at page 80.

8. Vol. 1, p. 10, Section 2.5.3.2.1, *Bridges*. This section generally describes the proposed bridges. Kuukpik would like to know what flood/high water data these designs are based on. Bridges should be high enough to allow subsistence users on Fish and Judy Creeks to pass below them in boats during normal (and somewhat higher than normal) water levels.

9. Vol. 1, p. 11, Section 2.5.4.2, *Camps*. The existing Arctic Wolf (or Arctic Fox) camp north of the Kuukpik Hotel should also be cited here.

10. Vol. 1, p. 12, Section 2.5.4.6, *Domestic Wastewater*. CPAI is leaving the option open to discharge treated wastewater to the ground until the UIC disposal well is available. Kuukpik opposes surface discharge of such wastewater.

11. Vol. 1, p. 13, Section 2.5.5, *Water Use*. This section states that 1.5 million gallons of water per mile will be used for construction of a 35 foot wide ice road. The "standard" figure is 1 million gallons per mile. We believe this figure needs to be corrected and calculations based on it must be updated to present an accurate picture of water use related to ice roads.

12. Vol. 1, p. 15-16, Sections 2.5.10, *Schedule and Logistics*. The dates shown are now off by at least 1 year in light of CPAI's public announcement that the Willow project would be delayed by at least 1 year.

13. Vol. 1, p. 17, Section 2.7, *Sealift Module Delivery Options*. These passages do not address Kuukpik's scoping comments on armoring materials or on requiring gravel to be physically removed after MTI use.

14. Vol. 1, p. 22 and 127, Table 3.16.1. These sections state that the Nuiqsut population is approximately 347 people. Per the NSB's 2015 Economic Profile and Census Report, the

population of Nuiqsut is 449 people (in 2014). (see http://www.north-slope.org/assets/images/uploads/NSB_Economic_Profile_and_Census_Report_2015_FINAL.pdf). The DEIS should also reference that Nuiqsut is the only North Slope community that is connected to the state's gravel road system by ice road for about 4 months out of the year.

15. Vol. 1, p. 31, Table 3.1.1, *Average Temperature and Precipitation at the Nuiqsut National Weather Service Monitor.* The data in this table is from 1981-2010. One would think more current Nuiqsut weather info is available. The Nuiqsut weather has changed since just 2010.

16. Vol. 1, p. 42, Section 3.3.3, *Additional Suggested Best Management Practices or Mitigation.* The additional mitigation measures should include use of drilling rigs that meet Tier 4 final standards prior to use of "high-line" power.

17. Vol. 1, p. 109, Table 3.13.1, *Marine Mammals Known to Occur in the Analysis Area.* The indication that the Willow Project Area is completely outside the bowhead whale migration corridor is not entirely accurate, as explained in Kuukpik's comments. Nuiqsut whalers confirm the bowhead whales use Harrison Bay and pass near Atigaru Point.

18. Vol. 1, p. 119, Section 3.14.2.2, *Action Alternatives and Module Delivery Options.* Where does Alternative B cross through a mile of the Colville River Special Area? BT4 is no longer located within the Teshekpuk Lake Caribou Habitat Area.

19. Vol. 1, p. 123, Section 3.15, *Economics*, 3.1.5.2.3.1, *Construction and Drilling.* The 4th passage states: "In addition to construction employment, drilling activities are estimated to generate 140 jobs per year." This figure is believed to actually refer to jobs per year per rig.

20. Vol. 1, p. 124, Section 3.15.2.3.2, *Operations.* This section states, "Once the operations phase begins, the Project would add an estimated 350 jobs through the life of the Project." Since the bulk of these jobs would be on a rotational schedule, this information implies that around 175 people would be on site at any given time. Is this accurate? This information also calls into question the flight data and vehicle trips previously referenced.

21. Vol. 1, p. 129, Table 3.16.2, *Selected Nuiqsut Harvest and Participation Data, Average Across Available Study Years*: Why isn't the BLM using the 10 years of caribou harvest data compiled by S.R. Braund & Associates here?

22. Vol. 1, p. 144, Table 3.1.6.9, *Number and Percentage of Nuiqsut and Utqiagvik Harvesters, by Module Delivery Option, 1996-2007.* This information seems flawed. Kuukpik wasn't aware that SRB&A tracked Utqiagvik harvest data. Also, it seems unusual that the Nuiqsut harvest numbers for many species are the same for the Atigaru Point and Point Lonely alternatives.

23. Vol. 1, p. 145, Section 3.1.6.2.6.1, *Proponent's MTI.* This section states, "During construction, peak ground traffic levels associated with the MTI would reach up to 8,900

trips daily, averaging 370 trips per hour in winter (Table E.11.10 in Appendix E.11, *Birds Technical Appendix*)." This data seems incorrect. Even if CPAI staged gravel somewhere between the Ublutuoch Mine Site and the island location (which hasn't been proposed as far as we know), this would equate to 6.6 trips per minute. Gravel trucks can't offload gravel in less than 10 seconds per load and get out of the way for the next truck.

24. Vol. 1, p. 146, Section 3.16.3, *Additional Suggested Best Management Practices or Mitigation*. Flight restrictions and vehicle convoys should be considered as additional project-specific BMPs. Boat ramps at Fish and Judy Creeks should also be considered as mitigation actions. Kuukpik commented on these items at the October 2 Draft EIS meeting in Nuiqsut.

25. Vol. 1, p. 152, Section 3.17.5, *Additional Suggested Best Management Practices or Mitigation*. These three suggestions sound like just more public meetings that may or may not provide any value for Nuiqsut at all. Nuiqsut is already "over-met", and Kuukpik doesn't believe these types of meetings are likely to serve the beneficial purposes BLM seems to suggest by including them here.

26. Vol. 1, p. 160-68, Section 3.19, *Cumulative Effects*: Table 3.19.1 Reasonably Foreseeable Future Actions That May Interact with the Project. Page 161 incorrectly lists Eni as developing Nuna 2. CPAI now proposes to develop Nuna 1 and 2. The Colville River Access Road is being constructed by NVN and the NSB, not the City of Nuiqsut.

27. Vol. 1, p. 176-78, Section 5.4, *Proponent's Voluntary Mitigation*. The discussion of CPAI's so-called "philanthropy program" is inaccurate. Several of the most important benefits listed in this section are not philanthropy at all, but rather, commitments that first ARCO and now CPAI are contractually obligated to provide as a result of agreements negotiated with Kuukpik over the years.